START

0038476

May 24, 1994

Pamela Innis
100-FR-3 Unit Manager
U.S. Environmental Protection Agency
712 Swift Boulevard, Suite 5
Richland, Washington 99352

Dear Pam:

Re: Comments on 100-FR-3 Limited Field Investigation Report and Qualitative Risk Assessment

The Washington State Department of Ecology (Ecology), providing support to the Environmental Protection Agency (EPA), have completed the review of the 100-FR-3 Limited Field Investigation (LFI) Report and the 100-FR-3 Qualitative Risk Assessment (QRA).

Our review comments indicate the need for clarification of certain areas. Furthermore, additional technical information is necessary to fulfill the scope of this study.

If you have any questions or concerns, please contact me at (509) 736-3049.

Sincerely,

Wayne W. Soper
100-FR-3 Operable Unit Manager
Nuclear Waste Program

cc: Steve Alexander, Ecology
Administrative Record (100-FR-3 Operable Unit)

May 24, 1994

General Comments on the LFI Report for the 100-FR-3 Operable Unit

1. The Executive Summary should be modified to state that the purpose of the LFI is to assess the applicability of interim remedial measures (IRM) for reducing human health and ecological risk caused by contamination.

2. The LFI should provide data on the relationship between water-table fluctuations and release and transport of contaminants from the lower vadose zone and capillary fringe to groundwater.

3. Information is missing on the nature and extent of groundwater contamination discharging to the Columbia River.

4. The purpose of the qualitative risk assessment (QRA) is to assist in the decision if an IRM is warranted. The Executive Summary should spell out the parameters used to define QRA risk levels and hazard quotients.

5. Provide the location of the seeps (if there are any) to the Columbia River on the maps (page 3-2, most probable exposure scenario is occasional use of springs by trespassers near the river).

6. On each COPC figure, show the applicable MCL in the legend. Also, draw the MCL contour line in each plume. Provide enough information in the text to show what data was used in constructing these maps.

7. Include a Water-Table Elevation map for each sampling event.

Specific Comments on the LFI Report for the 100-FR-3 Operable Unit

8. Comment: Executive Summary, page ES-1, first paragraph, last sentence.

Background concentrations of all contaminants for the Hanford site have not been determined. Therefore, it is more important to look at contaminant concentrations in near river wells with respect to drinking water standards.

9. Comment: Executive Summary, page ES-1, second paragraph, first sentence.

Were soil sample results also used in this investigation? If so, provide the data.

10. Comment: Executive Summary, page ES-1, second paragraph, last sentence.

It should be stated that any decisions will be based on the latest available validated data.

11. Comment: Executive Summary, page ES-1, fifth paragraph, last sentence.

Sentence reads, "Based on this method ..." Which method is this sentence referring to?

What criteria have been agreed upon if by exceeding the EHQ you have an IRM candidate?

12. Comment: Section 1.2, page 1-1, second paragraph.

The primary concern of this LFI is not the disposal of liquid waste, but rather the current condition of the ground water caused by the disposal of liquid wastes among other things. Let's keep the focus on ground water (see last paragraph on page 1-2).

13. Comment: Section 1.2, page 1-2, last paragraph.

Provide more background information on the PNL research laboratory.

14. Comment: Section 1.3, pages 1-2 & 1-3, third paragraph.

This paragraph requires some more modification and information.

1) When were the thirteen new wells completed for the LFI? Provide a table with completion date, depth, sample interval, stratigraphy, etc.

2) Please reference Figs. where the springs are located (Figs. 2-3 & 2-4).

3) Are there potential sources of contamination other than the springs? If so where.

4) Need some explanation of the soil samples.

5) What aquifer tests were run and which hydraulic heads were measured?

6) The second listed task includes vadose zone investigation. Please expand upon.

15. Comment: Section 1.3, page 1-3, fifth paragraph.

I don't believe any of these tasks are satisfactorily completed at this time.

16. Comment: Figure 1-2, page 1F-2.

This Fig. is very confusing. Also could we enlarge area around the boundary since the area affected by contamination is not limited to the boundary.

17. Comment: Figure 1-4, page 1F-3.

For reference, please date HPPSP document on this figure.

18. Comment: Section 2.2, page 2-4, third paragraph.

Why weren't any samples collected from well 199-F5-43B?

19. Comment: Section 2.2, page 2-4, fifth paragraph.

The paragraph states that the unconfined aquifer is comprised exclusively of Hanford formation. However, Fig. 2-2 shows most of the new wells are screened in the upper unit of the Ringold formation.

This paragraph also indicates low hydraulic conductivities in the soils? How were these determined? Hopefully, by more than slug tests. Also, paragraph contradicts itself. The paragraph states that the hydraulic gradient is maintained regardless of river stage. Then it states that the river influence is several hundred meters inland. Then it states that the gradient is reversed locally at high river stage. Let's work on this one.

20. Comment: Section 2.2, page 2-4, sixth paragraph.

Please provide an explanation for this paragraph. If we want to make this statement then we must expand it and provide on the western wells. I suggest taking it out since it really doesn't have anything to do with this study.

21. Comment: Section 2.2.1, page 2-4, first paragraph.

OK, if we take it that Fig. 2-2 is wrong, then please explain the contradiction between the implied statement of the third sentence and the aforementioned statement that the "Hanford" soils in this area have low hydraulic conductivity.

When were the slug tests run?

Please add this reference to the text. It is the latest version. The Bouwer and Rice Slug Test -- An Update, Ground Water, Vol. 27, No. 3, pp 304-309, 1989.

22. Comment: Section 2.5, page 2-5, first paragraph.

20 wells were not sampled, 19 were. Explain what and where are the other "fit-for-use" monitoring structures.

How far in was the line of near river wells determined?

23. Comment: Section 2.5.1, page 2-7, fifth bullet.

The paragraph states that analytes are excluded if they are at or below Hanford and/or local background levels. Have local background levels been determined for all analytes? If so, give appropriate reference(s).

24. Comment: Figure 2-2, page 2F-2.

Fix contacts or well completion depths.

25. Comment: Table 2-1, page 2T-1.

Give rationale for not conducting a slug test on well 199-F5-43B.

26. Comment: Table 2-2, page 2T-2.

Provide a column listing the MCLs and highlight those constituents over the MCL.

27. Comment: Table 2-7, page 2T-7.

I disagree with the designation of aluminum as non-toxic. Aluminum concentrations below 50 ug/L (ppb) are safe for rainbow trout (OHMTAD database). However, if groundwater concentrations of aluminum are above 50 ug/L (well F5-44 and possibly others) this could impact Salmon and steelhead spawning

28. Comment: Table 2-3 through Table 2-14, page 2T-3 through page 2T-14.

Add a column listing the MCLs where applicable. Highlight those constituents over the MCL. Also what rounds are the numbers based on?

29. Comment: Section 3.1, page 3-1, first paragraph.

Let's remember that the O.U. ends at the high water mark. Therefore, trespassing may not apply.

CORRESPONDENCE DISTRIBUTION COVERSHEET

Author	Addressee	Correspondence No.
Wayn W. Soper Nuclear Waste Program	Admin. Record, WHC Incoming: 9406356	

Subject: COMMENTS ON 100-FR-3 LIMITED FIELD INVESTIGATION REPORT AND QUALITATIVE RISK ASSESSMENT

INTERNAL DISTRIBUTION

Approval	Date	Name	Location	w/att
		Correspondence Control	A3-01	X
		W. T. Dixon (Assignee)*	H6-21	
		H. E. McGuire (Sr. Staff)*		
		EDMC*	H6-08	

* No Copy